

5 FAQ

This chapter contains answers to frequently asked questions.

Question 1.

What do I need to do to change the color of legends?

You can change the color of legends in the Legend Edit window. You can display the Legend Edit window by double-clicking on part of the legend in the theme you want to change or you can select "Edit Legend" from the "Theme" menu, which is one of ArcView's original menus, which can be displayed by selecting "Show ArcView Menu" from the "Option" menu.

After you have made changes to the color of legends, overwrite the settings with the same name as the theme name (spaces and slashes are not included) with the extension .Avl file name. If you do not overwrite the legend file, the previous legend settings will be used by the system when determining the color of themes instead of the new settings you selected.

Question 2.

The theme is sometimes displayed and sometimes not displayed, depending on the degree of enlargement of the map. How can I change the settings to stop this from happening?

When you only want to make temporary changes to the settings, click on the Theme Properties button to display theme properties and change the display extent. You can restore these settings to their original values by selecting "Threshold Set" from the "Administrator" submenu of the "Option" menu. In order to change display extents determined by the system, you will need to manually change the values in the "Threshol.txt" file in the directory determined by the Home environment. After making such changes, select "Threshold Set" from the "Administrator" submenu of the "Option" menu in order to make the new values active. In order to invalidate the Thresholds of all themes, select "Threshold OFF" from the "Administrator" submenu of the "Option" menu.

Question 3.

Sometimes the label gets in the way when I want to look at the map. Is there any way I can prevent it from being displayed?

Yes. Just uncheck the check box in the label theme you want to delete. If the label is still displayed even though you have turned the label off, check to see that you have not turned the wrong label off.

Question 4.

Although I am using the same scale, the background color on maps seems to vary. Why is this?

When no maps are displayed this is probably because no maps are registered in that particular area. It may be, however, that even though maps are registered in that area, that the color of the screen appears completely different depending upon the area, as the content displayed is variously different according to the context of land use, vegetation, etc.

Question 5.

When using the Feature Tool, the screen goes completely blank. What should I do?

Select "Redraw Display" from the "Display" menu and the screen will be redrawn.

Question 6.

Is there any simple way to get to a specific location?

Yes. Zoom in on the place you want and select "Entry" from the "Region" menu to record that location. When you need to get to that place again select "Reference Table" from the "Region" menu and make your selection.

Question 7.

Is it possible to display a specific area at startup?

No. It is not possible to change startup preferences.

Question 8.

Sometimes it is hard to distinguish the selection results of a certain theme from the selection results of another theme because their colors are the same. Is there anything I can do about making them easier to distinguish?

Not really. ArcView displays selected features in the same color regardless of theme. When you can not easily distinguish one set of results from another, delete all selection results and start again. You can use the "All Theme Deselect" button on the far left of the button bar to do this.

Question 9.

Is it possible to change the order in which themes are displayed?

There is no problem in changing the order in which themes are displayed, however, you may find that some smaller themes are completely covered by other larger themes if you do change the order. At present the themes are displayed in order from the lowest to the highest. (When changing the order of legends, it is possible to make legends of lower order transparent so that other legends can be seen.)

Question 10.

Is it possible to write certain characters on maps?

Yes. Use ArcView's Text Tool to do so. Please refer to the ArcView User's Manual for information regarding ArcView original functions.

Question 11.

Is it possible to select mangrove forests on the banks of rivers instead of selecting them by administrative boundaries?

Yes. You can use the Polygon Theme to select areas of mangroves alongside rivers, etc. Use the River (double) Theme instead of the Administrative Boundary Theme by selecting it with the Mangrove Polygon Selection Tool in the Administrative Boundary Theme. Please refer to the Tool Section of the User's Manual for details of how to do this.

Question 12.

When I save a project file what am I actually saving?

You are saving things like any layouts you have created or made changes to, theme selection conditions, and any changes you have made to data apart from map data. Changes to map data are saved in the Map Data File by using ArcView, which is completely separate from the project file.

Question 13.

Sometimes ArcView unexpectedly shuts down. What causes this and can I stop it from happening?

When the application is in operation, sometimes it hangs or shuts down of its own accord for a variety of reasons, including the fact that sometimes too many operations are trying to all run at the same time, etc. This cannot be helped. However, if the application hangs or shuts down when you are performing a certain operation and you have observed this to be a repeatable thing, then there may be a problem in your system or operating environment or even a bug in the program itself. In such cases please contact your systems administrator.

Question 14.

There doesn't appear to be any way to delete locations that I have registered. Is this really the case?

Yes and no. There is no specific function that allows you to delete locations that you have registered. When you want to refer to a location that you have recently registered, you will probably find it near the top of the list in the Reference Table. If you do not use that particular location frequently you will find that it slowly works its way down the list. If you do not use it again within 100 times of using it previously then it will be automatically eliminated from the list when you record the 101st new location. However, if you REALLY want to delete a location you have registered, you can open the "areamemo.txt" file in the same directory as the project file and manually edit it.

Question 15.

I tried to change the width of the area where the view legend is displayed and the whole screen display changed. What caused that and is there anything I can do about it?

If you change the width of the area where the legend is displayed (this is called the Table of Contents (TOC)), then the view itself will be reduced. As a result you find that before you may have had the base map displayed but now you have the index map displayed, etc. In such cases use the enlarge tool, the reduce tool, or the move tool to adjust the way the map is displayed. To return the width of the TOC to its original values you can select "Reset TOC Width" from the "Display" menu.

Question 16.

If I change the size of the view window the screen becomes all strange. What causes this and is there anything I can do about it?

The reason the view window display changed is probably the same as we talked about in Question 15. You have probably changed the width of the TOC. To return the width of the TOC to its original values you can select "Reset TOC Width" from the "Display" menu. To return the size of the window to its original settings select "Full Screen" from the "Display" menu.

MAINTENACE MANUAL

**THE STUDY ON MAPPING AND LAND COVER ASSESSMENT
OF MANGROVE AREAS IN THE PHILIPPINES**

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1 Installing the system

This chapter explains how to install MAFRIMS and covers matters to bear in mind when installing the program.

1-1 Operating Environment

You will need the following hardware and software in order to run the MAFRIMS program.

(1) Hardware

CPU Pentium II or faster

RAM More than 96MB

Hard Disk Capacity More than 2GB

Although you can run the MAFRIMS program on a system with an 800 x 600 pixel, 1,024 x 768 pixel or 1,280 x 1,024 pixel monitor, in order to ensure that the program operates as described in the manual you should use a monitor with a resolution of 1,024 x 768 pixels. One of the reasons for this is to ensure that text in small font sizes is displayed properly. Although the program will operate on systems with other specifications, the way in which maps are displayed, etc. will vary. Please see Chapter 5 of the Operation Manual for answers to frequently asked questions regarding the program.

(2) Software

Windows 95 or Windows 98 (English Version) or Windows NT 4.0 (English Version)

Microsoft Excel 97

ArcView GIS 3.0a

ArcView GIS 3.0a Expansion Tool

Expanded Scripts V98.10.30 or later

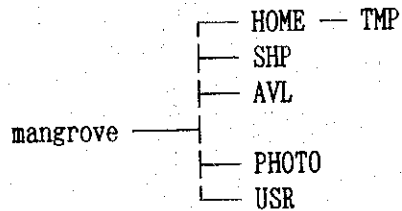
Feature Tool V99.02.17 or later

Asahi V99.02.18 or later

Please refer to the system manuals of Microsoft Excel 97 and ArcView GIS 3.0a for details regarding the installation of these programs.

1-2 Setting Up Directories

Please set up the directories as shown below. Designate the name of the top directory.



Although it is possible to locate some of the sub directories in other directories due to hard disk space limitations, it is best to try and maintain the directory layout shown above. After installing the system, additional directories will be added under the USR directory as users set up their files and as they copy their project files from the HOME directory. When a file is jointly used by all users, this should be located in the project file under the HOME directory.

1-3 Files

ArcView and Microsoft Excel must both be properly installed in order for the MAFRIMS program to operate. The following files must also be present.

(1) Operating Environment-related Files

avdlog.dat	dialog designer-related (lib32)
avdlog.dll	dialog designer-related (bin32)
asal.avx	main mangrove system (ext32)
polydemo.avx	mangrove system map editing tool (ext32)
exceedlE.avx	legend scripts (ext 32)

(2) Map Data-related Files (SHP directory)

camera
mangrove
bsld
bspd
idxld
idxpd
philtxt
geotextd
idxtexd
philld
philpd
deg30

Although the above-mentioned files are extensions, you will need three types of each: "shp," "dbf," and "shx."

You will also need files including "sbn" and "sbx" extensions when an index is included in the shape field, and you will need files including "aih" and "ain" extensions when an index is included in other attribute fields. Both of these files reside in the same directory.

barangay.txt

Barangay names are also recorded.

sheet1.dbf

sheet2.dbf

sheet3.dbf

Socioeconomic survey data is contained in these three files.

(3) Legend Files (AVL directory)

camera.avl

AerialPhoto.avl

Mangrove.avl

Mangroveoutline.avl

Index.avl

Road.avl

River(Single).avl

Barangay.avl

Municipality.avl

Province.avl

Region.avl

River(Double).avl

Building.avl

LakePond.avl

MangroveZone.avl

LandUse.avl

LandUseoutline.avl

shoreline(Line).avl

Shoreline.avl

BaseMapLine.avl

Basesheet.avl

Index-Line.avl

Index-Polygon.avl

AdministrativeBoundary.avl

Indexsheet.avl

Philippine.avl

Sea.avl

Background.avl

Label.avl

lavelvisi.avl

cameraIn.avl

camerapt.avl

(4) Project File-related Files

mangrove.apr

When you launch the program for the first time the "defenv.env" file is created.

When an area is recorded the Area Reference Table file "areamemo.txt" is created in the same directory as the project file. This file can be freely copied and used in other project files.

Threshol.txt

Data determining the scale to which the view theme displays objects is contained in this file.

The data contained in this file determines how maps will be displayed when they are enlarged or how themes and maps will be displayed when they are reduced.

LabelTM.def

This file contains data for labels which are displayed in the various themes.

The following items are set in the "defenv.env" file.

[EXCELFILE]

d: óprogram filesómicrosoftóofficeóexcel.exe

[DISPLAY]

1024 768

It is possible to directly edit the "defenv.env" file itself when necessary. If for some reason this file is accidentally deleted, the next time ArcView is launched a new "defenv.env" file will be created. This file resides in the environment settings ASAHOME. Environment settings become effective when they overwrite the startup file. This operation is carried out automatically by the installer. The startup file resides under the ArcView directory. Manually editing this file will probably cause problems and possible loss of data so don't do not modify this file unless it is absolutely necessary and there is not other alternative. The following is an

example of how the startup file is modified by the installer.

```
-----  
'+++ //MANGROVE// +++  
asalist = list.make  
asalist.add({"ASAHOME","e: óasahíohome"})  
asalist.add({"ASASHP","e: óasahíóashp"})  
asalist.add({"ASAAVL","e: óasahíóavl"})  
asalist.add({"ASADATA","e: óasahíóphoto"})  
asalist.add({"ASAUSR","e: óasahíóusr"})  
  
for each i in asalist  
  havePath = false  
  path = i.get(1)  
  if (path <> NIL) then  
    if(File.Exists(path.AsFileName)andFile.IsWritable(path.AsFileName)) then  
      System.SetEnvVar(i.get(0), path)  
      havePath = true  
    end  
  end  
  if (Not havePath) then  
    MsgBox.Warning("Cannot find a writable project directory. Please set  
environment variable " + i.get(0) + " to a writable directory.", "")  
  end  
end  
'--- //MANGROVE// ----  
-----
```

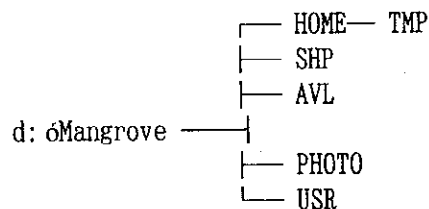
1-4 Installing the Program

In order to use the MAFRIMS program you need to first run the installer, modify the startup file, and install the DLL.

Before running the setup application copy the map data from the CD in order to create the directories mentioned in 1-2 and which are shown for your reference below. After you have finished copying the files launch "setup.apr." If the MAFRIMS program has already been installed on the computer then compare the creation dates of these files using "setup.apr." If the files are older than the files to be installed then you will need to install the new ones, but if the files have the same creation date as the files to be installed then you do not need to install them. The setup application installs operating environment files and modifies the startup file. If you make mistakes etc. or change the structure of directories then you can reinstall these files again. If installation is successfully carried out then "mangrove.apr" will be launched. The first time this application is launched you will be asked to locate Microsoft Excel. The program will only ask for this information once and will then remember the location of Microsoft Excel.

Now let's walk through the installing process step by step.

First, launch "setup.apr" the setup application. It will ask you for the top directory under which all of the map data files have been installed.



If you have already set up the directories as shown above then designate "d: \Mangrove." This name will automatically appear in the Installation dialog box as shown in Figure 1-1. You can make changes to this name if necessary to suit your particular system, etc.

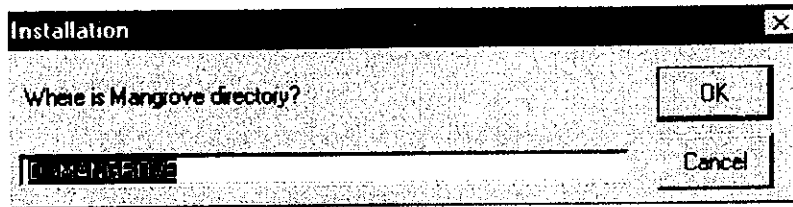


Figure 1-1 This is the first installation dialog box.

After you have designated the top directory then the system will ask you to verify the location of each directory.

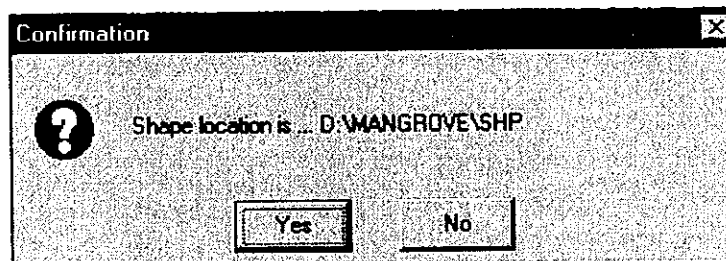
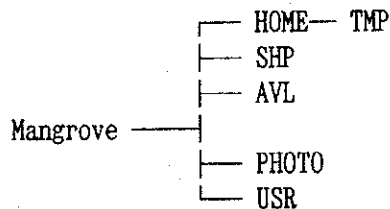


Figure 1-2 The setup application will ask you to verify the location of the different directories.

If the location is correct then click "Yes" but if it is incorrect then click "No." If you click "No" then you will be presented with a dialog box asking you to locate the directory. After locating it, select it and then click "OK."

In Figure 1-3 we are being asked to find the location of "bsld.shp." As the SHP directory is not immediately under the top directory we have to search for the directory in the dialog box in order to find it. When we find it we select it and click "OK."

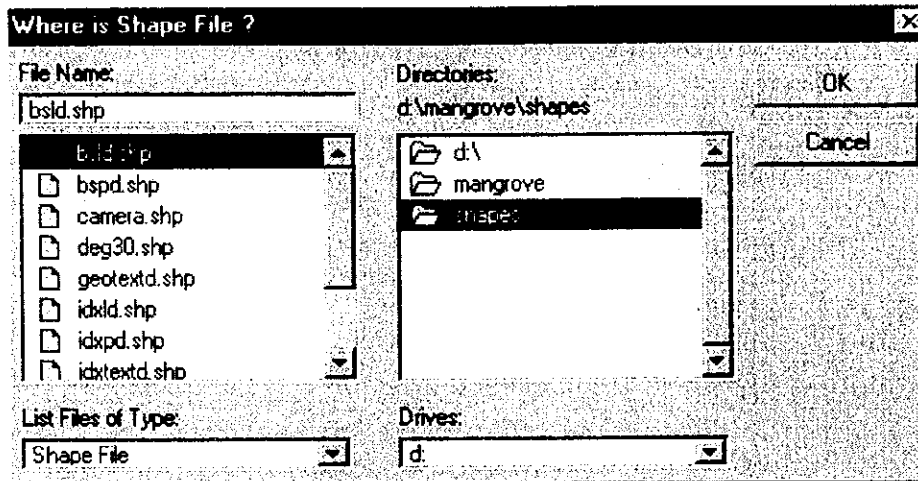
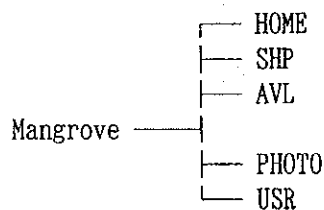


Figure 1-3 Once you have located the file you are looking for click on "OK."

You will be asked to repeat this process for each directory until the location of all of them has been verified by the setup application. Later if you make changes to the location of directories, then use the setup application and repeat the process to verify the new locations of the files.



After the location of all directories has been verified the setup application will automatically modify the startup file. The existing startup file will be saved in the same location as the new one with the file name "startup.old." After quitting the setup application it is not necessary to restart your computer in order to use the program. If everything has been installed and verified correctly then you will be able to double-click on the "mangrove.apr" to launch the program.

2 System Maintenance

This chapter explains the importance of carrying out regular system maintenance and gives details regarding how such maintenance is to be carried out.

2-1 About System Maintenance

In order to keep damage to the system and the effect of incorrect use of the program to a minimum it is vitally important to carry out regular backups of data by order of importance and frequency of use. Although it is possible to restore the program to the condition it was in when it was first installed by carrying out a complete reinstall, any modifications that have been made to files together with any project data that has been created are of course not able to be recovered by such a procedure. Therefore, it is vitally important that the system administrator carry out regular and thorough backups of both system files and data files. This will mean that if something does happen to the program and data, etc., that it will be able to be restored and up and running in a very short space of time. Not only is this incredibly convenient but it also means that untold hours of work are "protected" from possible damage or loss.

2-2 Making Backups

As all map data is provided in shape file type, basically it is possible to edit any of those themes. Themes do not usually need to be modified. However, as there may be times when it is necessary to designate shape files related to themes used by the system as read-only files, or when multiple files are related to one theme it may be necessary to designate new indexes etc. when using the system, no restrictions will be placed on accessing or modifying system files.

Apart from when map data is being updated, files requiring backup are the pre-edit mangrove forest map data files (mangrove*) and the startup project files (mangrove.apr is the default). Unfortunately, for a number of reasons it is still possible for the project file to be damaged even though the program is being operated properly. For example, there are certain types of font which are not 100 percent compatible with the ArcView program. If those fonts are used in labels within the program, then ArcView becomes very unstable. There are times when the program may not even launch. Such problems are usually only discovered with use so you should keep a log of such problems for future reference.

When adding new map data files (bspd.* (polygon data), bsld.* (line data), geotextd.* (text data)) and when mangrove polygons are newly included in maps, the "mangrove.*" file will be updated.

Therefore it is a good idea to make regular backups of this file as it is probably updated nearly every day. When a new sheet is added to map data, a backup should be made of such data before it is updated.

2-3 Restoring Files

When for some reason an error has occurred when updating data, use your backup files to restore map data.

In order to restore map data you must install the backup files in their proper locations. When doing this, quit ArcView and copy the necessary files to their respective locations. The path of the source file of the theme recorded in the view is registered in the project file. When restoring project files, if the source file does not exist in the location of the path, although files are installed in their original locations, an error message will be displayed when Arc View is next started up. If the source file does not exist in the location of the path then an error message will be displayed when ArcView is next started up. When the source file is located in a different location, follow the instructions in the message and designate the new location. When the source file does not exist, select "Cancel" in the message that is displayed and the program will

2-4 Storing Backup Files

Regular backup files should not be stored on the computer on which the program is operating but on other media or computers. With the exception of when original data is temporarily stored on the same computer in a different location before editing mangrove forest data, regular backup files should be stored in a location different from that of the computer itself. Not just one backup file but a series of regular backup files should be kept in order to record a history of the work that is being carried out. Other reasons for making multiple regular backups is that sometimes a damaged file is not immediately discovered and a file from a backup carried out two backups ago may be necessary, and also the fact that backup files themselves can be

damaged.

2-5 Regular Deleting of Unnecessary Files

Sometimes files are created for temporary use by the program. For example, when the Feature Tool is used to copy a shape, this file is temporarily created in the TMP directory of the active project file. Whenever this function is used a temporary file is created. With the exception of when a temporary theme that is still displayed in a view, all files in the TMP directory created when a shape is being copied are unnecessary and should be deleted regularly. A large number of unnecessary temporary files also slows down the overall operation of the program.

3 Adding Map Data

This chapter explains how to add new map data.

3-1 Adding New Maps

In order to add new map data to the system it is necessary to follow the correct procedures. This chapter explains the procedures for updating map data. The diagrams referred to in this chapter are included on the final page of this section for your reference. The coordinates of the added map data which is in DGN file format are given in UTM coordinates in millimeters in Chart 3-1, 3-2, 3-3.

The files are actually added to the special project file (makemap.apr). Before using this project file it is a wise idea to backup your data.

Chart 3-1 DGN File Format General Map of Philippines Layer Table

Input Items	Level	Type	Co	Et	Lc	Ft	Tx
Shoreline	1	Polygon					
Administrative Boundary	2	Line					
Geographical Name Region, Province, City	3	Line					
Project Area	Neat Line	4	Polygon				
	Map Name	5	Line				

Chart 3-2 DGN File Format 1:250,000 Map Layer Table

Input Items	Level	Type	Co	Et	Lc	Ft	Tx
General Building	1	Polygon					
Road	2	Line					
River	3	Line					
Shoreline	4	Polygon					
Mangrove Forest	5	Polygon					
Administrative Boundary	6	Line					
Geographical Name Region, Province, City, Sea, Bay, Mountains,...	7	Text					
Base Map Sheet	Neat Line	8	Polygon				
	Map Name	9	Text				
Sheet	Neat Line	10	Polygon				
	Map Name	11	Text				

Chart 3-3 DGN File Format 1:10,000 Map Layer Table

Input Items		Level	Type	Co	Wt	Lc	Ft	Tx
Administrative Boundary	Region	10	Polygon					
	Region Name	11	Text					
	Province	12	Polygon*					
	Province Name	13	Text					
	Municipality	14	Polygon*					
	Municipality Name	15	Text					
	Barangay	16	Polygon*					
	Barangay Name	17	Text					
Road	Single Line	20	Line					
	Double Line	21	Line					
River	Single Line	22	Line					
	Double Line	23	Polygon					
Lake/Pond		24	Polygon					
Shoreline		25	Polygon					
Building	General	26	Polygon					
	Isolated	27	Polygon					
Land Use	Farm Land Forest Area Sand Gravel Arable Land Dry Land Fishpond Mangrove Forest	30	Polygon*					
	Abbreviation 'FO', 'AL',...	31	Text					
Geographical Name	City/Municipality Barangay, Road, River, Sea, Bay,...	32	Text					
Mangrove	Zone	40	Polygon*					
	Zone Code	41	Text					
	Sub-compartment	42	Polygon*					
	Sub-compartment Number	43	Text					
Aerial Photo	Principal Point	50	Line					
	Number	51	Text					
Sheet	Line	60	Polygon					
	Name	61	Text					

Polygon* : polygon with attributes data

3-2 Updating Line Data

(1) Making Backups of Files

Backup the following files which are located in environment settings ASASHP.

bsld.*

(2) Launch the Map Data Conversion Tool

Use the "Projector!" extension provided as a sample from ESRI in the Map Data Conversion Tool in order to convert coordinates. This sample extension is located in "samples \ ext \ prjctr.avx" of the ArcView directory. First, move this file to EXT32. You will then be able to launch "makemap.apr."

As a map data conversion tool unique to this program is included in "makemap.apr," use these conversion tools to add new map data to the existing system.

(3) Converting from DGN File Format to Shape File Format

Prepare a view to work in. Select "Add Theme" from the "Tools" menu and select the "Line Class" of the DGN file on the newly added sheet and add it as a theme. After you have added the DGN file as a theme, select the unit of measurement for the map from "View Properties." Make the newly added DGN file theme active and then select "Convert DGNtoSHP" from the "Tools" menu. A dialog box will appear asking you to designate projection properties for the area. Figure 3-1 shows the projection properties for Zone 51 (Aparri and Lamon) and Figure 3-2 shows the projection properties for Zone 50 (Ulugan).

When conversion of the DGN file has been completed, you will be asked which view you want the new data to be added to. Select "New View" to add the theme to the new view.

(4) Deleting Unnecessary Layers

Of the line classes of DGN files, the layers that the system draws in views are 20, 21, 22, 25, 50, and 60. As layers other than these are unnecessary they can be deleted. After checking that the result theme is active, click on the "Query Builder" button to search for these layers. After carrying out the search, close the search window

and click the "Open Theme Table" button. Next, click the "Switch Selection" button to display the search. All layers apart from the previously mentioned layers (20, 21, etc.) will be selected. Enter Edit Mode by selecting "Start Editing" from the "Table" menu and delete all records selected in "Edit Delete Records" (with the exception of currently designated layers). Finally, select "Stop Editing" from the "Table" menu to exit Edit Mode and then close the table window.

(5) Joining Source Files

We have so far been preparing to add new maps to original data. We will now join this new map data with original map data. There should be a theme in the present view from which you have just deleted unnecessary layers. In the same way as after you added DGN files, select "Add Theme" from the "Tools" menu and add "bsld.shp" in the environment settings ASASHP of this view to the theme. Then select "Unite Theme" from the "Tools" menu. This will first ask for the source theme so designate "bsld.shp" and then it will ask for the joining theme so designate the theme you have been working on since (4) (hereafter referred to as the "joined theme"). You can choose any name you like for the destination file but make sure you write it down somewhere as you will need it as it will become the new base map line theme. When you have designated the destination file, the source theme and the joining theme will then be joined and saved in the destination theme.

(6) Updating Old Map Files

At this stage, temporarily quit "makemap.apr." There is no need to save anything. Next start up the new ArcView project file. Create a new view and then add to it the file you have just created in (5). Although this file contains the line data for the base map as a whole, the system cannot read it in its present state. Save it again with the "bsld.shp" file name. Select "Convert to Shapefile" from the "Theme" menu and the "bsld.shp" file in the environment settings ASASHP as the destination. A dialog box will be displayed asking if you want to overwrite this file. Click on "OK" and "bsld.shp" will be overwritten with the new line data.

Quit the ArcView project file you have been using to process this file

without saving it.

3-3 Updating Polygon Data

(1) Making Backups of Files

Backup the following files which are located in environment settings ASASHP.

bspd.*

(2) Launch the Map Data Conversion Tool

In the same way as you did for line data, launch "makemap.apr" (Please refer to 3-3 above).

(3) Converting from DGN File Format to Shape File Format

Prepare a view to work in. Select "Add Theme" from the "Tools" menu and select the "Polygon Class" of the DGN file on the newly added sheet and add it as a theme. After you have added the DGN file as a theme, select the unit of measurement for the map from "View Properties." Make the newly added DGN file theme active and then select "Convert DGNtoSHP" from the "Tools" menu. A dialog box will appear asking you to designate projection properties for the area. Figure 3-1 shows the projection properties for Zone 51 (Aparri and Lamon) and Figure 3-2 shows the projection properties for Zone 50 (Ulugan). When conversion of the DGN file has been completed, you will be asked which view you want the new data to be added to. Select "New View" to add the theme to the new view.

(4) Deleting Unnecessary Layers

Of the polygon classes of DGN files, the layers that the system draws in views are 10, 12, 14, 16, 23, 24, 25, 26, 27, 30, 40, 42, and 60. As layers other than these are unnecessary they can be deleted. After checking that the result theme is active, click on the "Query Builder" button to search for these layers. After carrying out the search, close the search window and click the "Open Theme Table" button. Next, click the "Switch Selection" button to display the search. All layers apart from the previously mentioned layers (10, 12, etc.) will be selected. Enter Edit Mode by selecting "Start Editing" from the "Table" menu and delete all records selected in "Edit Delete Records"

(with the exception of currently designated layers). Finally, select "Stop Editing" from the "Table" menu to exit Edit Mode and then close the table window.

(5) Joining Source Files

We have so far been preparing to add new maps to original data. We will now join this new map data with original map data. There should be a theme in the present view from which you have just deleted unnecessary layers. In the same way as after you added DGN files, select "Add Theme" from the "Tools" menu and add "bspd.shp" in the environment settings ASASHP of this view to the theme. Then select "Unite Theme" from the "Tools" menu. This will first ask for the source theme so designate "bspd.shp" and it will then ask for the joining theme so designate the theme you have been working on since (4) (hereafter referred to as the "joined theme"). You can choose any name you like for the destination file but make sure you write it down somewhere as you will need it as it will become the new base map polygon theme. When you have designated the destination file, the source theme and the joining theme will then be joined and saved in the destination theme.

(6) Updating Old Map Files

At this stage, temporarily quit "makemap.apr." There is no need to save anything. Next start up the new ArcView project file. Create a new view and then add to it the file you have just created in (5). Although this file contains the polygon data for the base map as a whole, the system cannot read it in its present state. Save it again with the "bspd.shp" file name. Select "Convert to Shapefile" from the "Theme" menu and the "bspd.shp" file in the environment settings ASASHP as the destination. A dialog box will be displayed asking if you want to overwrite this file. Click on "OK" and "bspd.shp" will be overwritten with the new polygon data. Quit the ArcView project file you have been using to process this file without saving it.

3-4 Updating Text Data

(1) Making Backups of Files

Backup the following files which are located in environment settings ASASHP.

geotextd.*

(2) Launch the Map Data Conversion Tool

In the same way as you did for line data, launch "makemap.apr" (Please refer to 3-3 above).

(3) Converting from DGN File Format to Shape File Format

Prepare a view to work in. Select "Add Theme" from the "Tools" menu and select the "Annotation Class" of the DGN file on the newly added sheet and add it as a theme. After you have added the DGN file as a theme, select the unit of measurement for the map from the "View Properties."

Make the newly added DGN file theme active and then select "Convert DGNtoSHP" from the "Tools" menu. A dialog box will appear asking you to designate projection properties for the area. Figure 3-1 shows the projection properties for Zone 51 (Aparri and Lamon) and Figure 3-2 shows the projection properties for Zone 50 (Ulugan). When conversion of the DGN file has been completed, you will be asked which view you want the new data to be added to. Select "New View" to add the theme to the new view.

(4) Deleting Unnecessary Layers

Of the annotation classes of DGN files, the layers that the system draws in views are 11, 13, 15, 17, 31, 32, 41, 43, 51, and 61. As layers other than these are unnecessary they can be deleted. After checking that the result theme is active, click on the "Query Builder" button to search for these layers. After carrying out the search, close the search window and click the "Open Theme Table" button. Next, click the "Switch Selection" button to display the search. All layers apart from the previously mentioned layers (11, 13, etc.) will be selected. Enter Edit Mode by selecting "Start Editing" from the "Table" menu and delete all records selected in "Edit Delete Records" (with the exception of currently designated layers). Finally, select "Stop Editing" from the "Table" menu to exit Edit Mode and then close the table window.

(5) Joining Source Files

We have so far been preparing to add new maps to original data. We will now join this new map data with original map data. There should be a theme in the present view from which you have just deleted unnecessary layers. In the same way as after you added DGN files, select "Add Theme" from the "Tools" menu and add "geotextd.shp" in the environment settings ASASHP of this view to the theme. Then select "Unite Theme" from the "Tools" menu. This will first ask for the source theme so designate "geotextd.shp" and it will then ask for the joining theme so designate the theme you have been working on since (4) (hereafter referred to as the "joined theme"). You can choose any name you like for the destination file but make sure you write it down somewhere as you will need it as it will become the new base map place name theme and label theme. When you have designated the destination file, the source theme and the joining theme will then be joined and saved in the destination theme.

(6) Updating Old Map Files

At this stage, temporarily quit "makemap.apr." There is no need to save anything. Next start up the new ArcView project file. Create a new view and then add to it the file you have just created in (5).

Although this file contains the text data for the base map as a whole, the system cannot read it in its present state. Save it again with the "geotextd.shp" file name. Select "Convert to Shapefile" from the "Theme" menu and the "geotextd.shp" file in the environment settings ASASHP as the destination. A dialog box will be displayed asking if you want to overwrite this file. Click on "OK" and "geotextd.shp" will be overwritten with the new text line data. Quit the ArcView project file you have been using to process this file without saving it.

Text line data is different from polygon data and line data in that merely updating the source file is insufficient. After you have finished updating all map data, you must then put labels on the newly added maps in the startup project file. Please see "3-7 Updating Project Files" for details regarding how this is to be carried out.

3-5 Updating Mangrove Data

This section explains the procedure for updating map data containing mangrove forest polygons.

(1) Making Backups of Files

Backup the following files which are located in environment settings ASASHP.

mangrove.*

(2) Launch the Map Data Conversion Tool

In the same way as you did for line data, launch "makemap.apr" (Please refer to 3-3 above).

(3) Converting from DGN File Format to Shape File Format

Prepare a view to work in. Select "Add Theme" from the "Tools" menu and select the "Polygon Class" of the DGN file on the newly added sheet and add it as a theme. After you have added the DGN file as a theme, select the unit of measurement for the map from "View Properties." Make the newly added DGN file theme active and then select "Convert DGNtoSHP" from the "Tools" menu. A dialog box will appear asking you to designate projection properties for the area. Figure 3-1 shows the projection properties for Zone 51 (Aparri and Lamon) and Figure 3-2 shows the projection properties for Zone 50 (Ulugan). When conversion of the DGN file has been completed, you will be asked which view you want the new data to be added to. Select "New View" to add the theme to the new view.

(4) Deleting Unnecessary Layers

Of the polygon classes of DGN files, the layer that the system draws in views is 42. As layers other than these are unnecessary they can be deleted. After checking that the result theme is active, click on the "Query Builder" button to search for these layers. After carrying out the search, close the search window and click the "Open Theme Table" button. Next, click the "Switch Selection" button to display the search. All layers apart from the previously mentioned layer (42) will be selected. Enter Edit Mode by selecting "Start Editing" from the "Table" menu and delete all records selected in

"Edit Delete Records" (with the exception of currently designated layers). Finally, select "Stop Editing" from the "Table" menu to exit Edit Mode and then close the table window.

(5) Joining Source Files

We have so far been preparing to add new maps to original data. We will now join this new map data with original map data. There should be a theme in the present view from which you have just deleted unnecessary layers. In the same way as after you added DGN files, select "Add Theme" from the "Tools" menu and add "mangrove.shp" in the environment settings ASASHP of this view to the theme. Then select "Unite Theme" from the "Tools" menu. This will first ask for the source theme so designate "mangrove.shp" and it will then ask for the joining theme so designate the theme you have been working on since (4) (hereafter referred to as the "joined theme"). You can choose any name you like for the destination file but make sure you write it down somewhere as you will need it as it will become the new mangrove forest theme. When you have designated the destination file, the source theme and the joining theme will then be joined and saved in the destination theme.

(6) Updating Old Map Files

At this stage, temporarily quit "makemap.apr." There is no need to save anything. Next start up the new ArcView project file. Create a new view and then add to it the file you have just created in (5). Although this file contains the map files with mangrove forest attribute data for the base map as a whole, the system cannot read it in its present state. Save it again with the "mangrove.shp" file name. Select "Convert to Shapefile" from the "Theme" menu and the "mangrove.shp" file in the environment settings ASASHP as the destination. A dialog box will be displayed asking if you want to overwrite this file. Click on "OK" and "mangrove.shp" will be overwritten with the new mangrove forest data. Quit the ArcView project file you have been using to process this file without saving it.

3-6 Deleting Temporary Files

The temporary files which have been created so far in creating these other files are unnecessary. Delete them.

Temporary files created in the process of updating map data are especially large in size so make sure you delete them.

3-7 Updating Project Files

(1) Making Backups of Files

Backup the startup project file.

mangrove.apr

(2) Launch the Project File

Launch the project file. As the map data has been updated, all views will be redrawn based on the new data files.

Enlarge the map to an area you know should have been updated and check that the new map data is displayed in the view. Although the new map data will have been displayed, you will find that it does not yet contain any base map labels or labels to be used in a place name search. Let's now get to work labeling the new maps.

(3) Base Map Number Labels

First, select the index map view of the new map. A red square is displayed on the index map indicating the location of the base map. Enlarge the view until it contains most of the base maps for which a base map number has not yet been assigned. Although the area of the existing base map should contain a label, if a base map number is not displayed, make sure that the Base Map No. theme check box is selected. If the base map number label is still not displayed, leave the map as it is and carry out the following procedure.

Select "Show Symbol Window" from the "Option" menu and select red as the text color, Century for the font (another font if Century is not available), but leave the text size settings as they are.

a) Pasting Labels for only the Added Base Maps

After checking that the Base Map No. theme is active, click on the view with the right-hand button of the mouse. Select "Set Legend

Line" from the pop-up menu that is displayed. A short black line will be displayed indicating the position of base map labels. These black lines are much shorter than the labels themselves so look carefully for all of them. You should also find the same short black lines on the new base map. Select these lines ONLY with the "Select Feature" tool, click with the right-hand button of the mouse again to display the pop-up menu, and then choose "Add Labels" from it. The base map label ONLY will be added. Is the size appropriate?

When you can not seem to get the size and look of the new base map number to look the same as that of other base map numbers, select that label with the "Select" tool and select "Remove Labels" from the pop-up menu to delete that label. The symbol window will be redisplayed so make any changes you need to the text size. If you have changed the text size, go through exactly the same process as before (described above) to paste the label on the map. If you still can not seem to get the size you want, you can directly enlarge the size of the label. Make any adjustments you need. After you are satisfied with the appearance of the label, use the "Select" tool to select the label and position it in the appropriate location.

When you have finished positioning the label, after you have deselected the line and label, select "Set Legend-No Line" from the pop-up menu to prevent the line on the label from being displayed.

When using this method to position Base Map Number labels on new base maps, although it is necessary to adjust the size of the labels in relation to other labels, there is the advantage that you only have to adjust the size of these new base map labels and not the other labels.

b) Repositioning All Base Map Number Labels

After checking that the Base Map No. theme is active, click on the view with the right-hand button of the mouse. Select "Remove Labels" from the pop-up menu that is displayed to delete all labels. Next, select "Set Legend-Line" from the pop-up menu. A short black line will be displayed indicating the position of base map labels. These black lines are much shorter than the labels themselves so look carefully for all of them. Then open the Base Map No. theme

table, select all of the records, and then close the window. Select "Add Labels" from the pop-up menu and all base map numbers will be positioned on separate lines.

Is the size appropriate? If it is too big or small then select "Remove Labels" from the pop-up menu to delete them. Open the symbol window again and make any changes you think necessary to the text size. After you have finished making the changes, open the Base Map No. theme table, select all of the records, and then close the window. Select "Add Labels" from the pop-up menu and all base map numbers will be positioned on separate lines. If you are still not satisfied with the result then keep on trying until you are satisfied. When you are eventually satisfied with how the labels look, use the "Select" tool to select as many labels as you can and position them in their appropriate locations. After you have finished positioning all of them, deselect the lines and labels and select "Set Legend-No Line" from the pop-up menu to prevent the lines on the labels from being displayed.

If you use this method to position base map number labels on new base maps you do not need to adjust their size in relation to other labels and there is no variation in size or style at all.

Note: This same method is used to position other base map number labels.

Zoom in on other areas and make any adjustments necessary to ensure that all base map number labels look the same. Labels are NOT in the correct position immediately after they have been created so make sure that you position EVERY label in its correct position.

c) Supplementary Explanations

With regard to the method mentioned in a), it is also possible to select only a portion of the labels in a particular area and repaste the labels. Select all the base map number labels in a particular area and delete them. Display label lines and select all lines in that area. Next, follow the procedures outlined in a) above to paste the new labels.

(4) Positioning Place Name Labels for Searches

Check that the Area Name theme check box is selected. Select "Show Symbol Window" from the "Option" menu to display the symbol palette and select black as the text color, Century for the font (Choose another font if Century is not available), and select 18 points as the text size.

First select "Geographical Search" from the "Search" menu and then zoom in on the particular place name you want to work on. If the place name you have selected already exists on the map then a place name label already exists for that area and so you will see it in the view. On the other hand, if the place name you selected exists in a new map, then a place name label will not yet exist for it and so zooming on will reveal nothing.

After checking that the area name label is active, click on the view with the right-hand button of the mouse. Select "Remove Labels" from the pop-up menu that is displayed to delete all labels. Next, select "Set Legend-Line" from the pop-up menu. A short black line will be displayed for place names. This line will be located in the middle of the screen and so it will be easy to find. Then open the area name theme table, select all of the records, and then close the window. Select "Add Labels" from the pop-up menu and all selected place names will be positioned on separate lines.

If the size of the label is appropriate, deselect the lines and labels and select "Set Legend-No Line" from the pop-up menu to prevent the lines on the labels from being displayed.

This method is used to position all place name labels. When you carry out a place name search, zoom in on other places to check that they have place name labels correctly attached.

(5) Updating the Index

The index files for all the different files that have been overwritten when the maps were updated now have to be updated.

The base map line file and the base map polygon file are referred to by multiple themes. Although we could use any theme that refers to these files to create an index, we will use "Road" as the line theme and "Barangay" as the polygon theme.

First, display the road theme table window and click on the title of the shape field. Next, select "Create Index" from the "Field" menu

to create an index for the shape field. After you have finished doing this, close the table window. Then, display the Barangay theme table window. In the same way, click on the title of the shape field. Select "Create Index" from the "Field" menu to create an index for the shape field. After you have finished doing this, close the table window. Lastly, in the same way as described above, create an index for the text field of the area name theme *^* not the shape field. We have now successfully created index files for the new map data. After saving the project file, quit the program. Now restart using the new project file. If everything is running smoothly then you have successfully updated your map data.

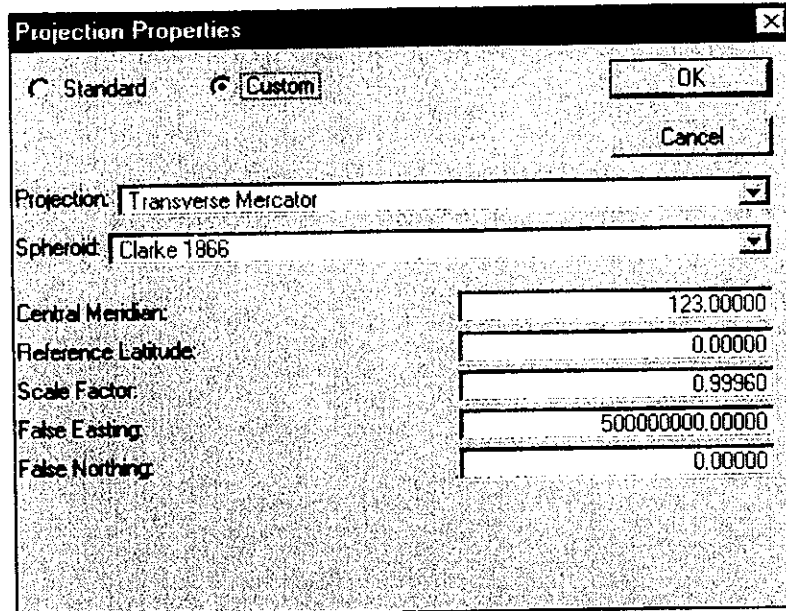


Figure 3-1 Projection properties for Zone 51.

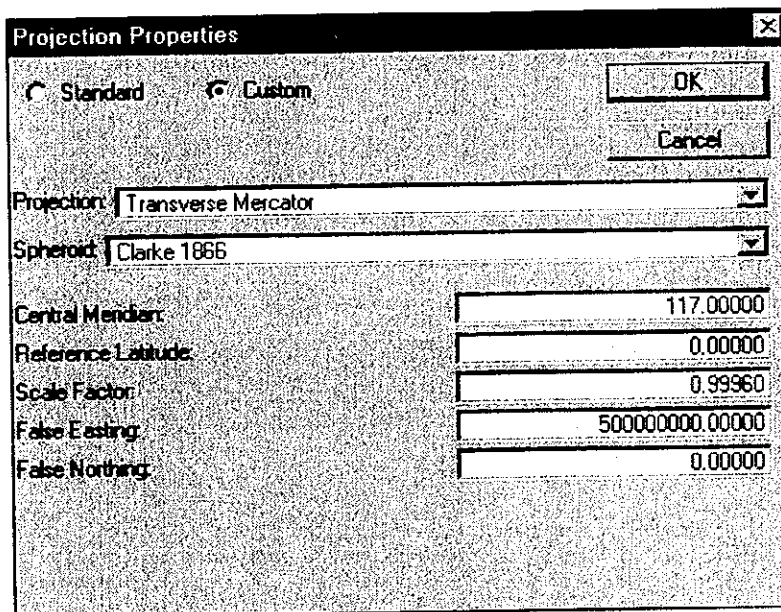


Figure 3-2 Projection properties for Zone 50.

